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# The MacArthur Story Stem Battery: Development, Administration, Reliability, Validity, and Reflections About Meaning

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In the mid-1980s several members of the MacArthur Research Network on Early Childhood Transitions discovered a common interest in using storytelling procedures to explore young children's inner worlds. In a sense, they were building on the clinical writings of pioneers in psychoanalytic play therapy, such as A. Freud (1946), Waelder (1933), Winnicott (1958), and Erikson (1950), all of whom believed that young children's play revealed much about their psychic conflicts and their efforts to master or adapt to those conflicts. However, renewed impetus for the use of play narratives also came from a plethora of emerging findings about young children's social, emotional, and moral understanding, and the development of symbolic play, memory talk, story schemas, and scripts. These showed that preschoolers' narrative capacity and understanding of themselves and others was considerably more complex than had been assumed. Further inspiration for using storytelling methods as a window into young children's inner worlds came from an attachment study that revealed links between the quality of parent-child attachment relationships and children's narratives about a set of attachment-related pictures.

The first part of this chapter describes three pioneering studies by members of the MacArthur Network in which story beginnings (or stems), enacted with small family figures, were used to elicit play narratives from preschool children. The issues probed by these story completion tasks centered on attachment and moral conflict. However, despite the family resemblance with play therapy techniques, neither the supporting materials nor the story stems were designed to elicit the equivalent of free associations. Rather, the child was invited to address

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a standard set of hypothetical story problems, based on or similar to situations that he or she was likely to have encountered in everyday life.

During the second phase of the MacArthur Research Network on Early Childhood Transitions, members of the Narrative Work Group, led by Robert Emde and Dennis Wolf, decided to build on the findings from these three initial studies by creating a more comprehensive battery of story stems that reflected group members' wider interests in emotional, social, moral, and narrative development. This battery was to be incorporated into a number of longitudinal studies conducted by network members. In the second part of this chapter we describe the development of the resulting MacArthur Story Stem Battery (MSSB), followed by directions for its administration. We also discuss various approaches to coding children's responses. In the third part, we summarize empirical evidence for the developmental stability, contextual stability, and external validity of the MSSB. In the concluding section, we reflect briefly on the sense in which the themes, presentation, and organization of young children's responses to the MSSB can be said to provide a window into their thoughts and feelings about moral issues and social relationships.

## Precursors of the MacArthur Story Stem Battery

In the course of pilot-testing their newly developed Attachment Story Completion Task (ASCT), Bretherton and Ridgeway learned that Buchsbaum and Emde were planning to use a similar narrative technique to tap preschoolers' internalization of moral rules and prohibitions. This led the two teams to join forces, coordinate their training methods, and administer an overlapping set of story stems to two samples of 3-year-olds (Bretherton, Biringen, Ridgeway, Maslin, & Sherman, 1989; Bretherton, Ridgeway, & Cassidy, 1990; Buchsbaum & Emde, 1990; Emde & Buchsbaum, 1990). Independently, Oppenheim, who joined the MacArthur Network later, had developed a set of separation and distress stories to assess the attachment-exploration balance in preschoolers (published in Oppenheim, 1997). Inspired by his previous clinical work with children and by attachment research, he also used a combination of enactment and narration in his story task. These three studies provided the basic framework for the development of the MSSB.

### *The Attachment Story Completion Task*

The creation of the ASCT (Bretherton & Ridgeway, 1990) was prompted by Main, Kaplan, and Cassidy's (1985; see also Kaplan, 1987) longitudinal attachment study, but was also influenced by current research on symbolic play, event representation, and story schemas.

*Related Attachment Research* Main et al. had used a new version of the Separation Anxiety Test (SAT) developed by Klagsbrun and Bowlby (1976). This version of the SAT consisted of six drawings depicting severe and mild parent-child

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separation scenes. An interviewer provided a standard description of each picture and then asked how the child in the picture was feeling and what he or she was going to do next. Main et al. (1985) reported that 6-year-olds who produced constructive solutions in response to the separation scenarios and were able to talk about the separations with emotional openness were highly likely to have been classified as securely attached when observed in the Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978) with their mothers in infancy. The mothers of these children were able to talk coherently and openly about their own childhood attachments in response to the Adult Attachment Interview (George, Kaplan, & Main, 1985).

Based on Main et al.'s findings, slightly revised versions of the SAT, with a standard set of photographs, were used in studies with 4-year-olds (e.g., Slough & Greenberg, 1990; Shouldice & Stevenson-Hinde, 1992). These corroborated some of Main et al.'s (1985) earlier results. In addition, Cho (1994) found that children with secure SAT evaluations were judged by their mothers to be more positively responsive and less detached/distancing. Together, these studies supported the assumption that narrative responses to a semi-projective task reveal important aspects of a child's actual relationships experiences.

Reasoning that a task requiring purely verbal responses, even if supported by pictures, might be too difficult for younger preschoolers, Bretherton and Ridgeway (1990) devised a series of attachment-related story stems that were acted out with small family figures and props. Grounded in attachment theory, their story stems represented a greater variety of attachment scenarios than the SAT, including situations in which a child protagonist experienced mishaps, fear, or pain, as well as separation from and reunion with parents.

*Related Research on Symbolic Play, Event Representations, and Stories* In structuring the story stems and pilot-testing methods of administration, Bretherton and Ridgeway drew on available research about language acquisition, cognitive and socioemotional development, and symbolic play. Some studies of early symbolic play had demonstrated that even 18-month-old toddlers are able to enact brief pretend sequences of everyday routines (for reviews, see Bretherton, 1984; Fein, 1981). In the course of the 3rd year, as Wolf, Rygh, and Altshuler (1984) had demonstrated, 2-year-olds already begin to create simple stories with replicas of human figures and animals. Through intensive, weekly observations of the spontaneous and elicited "replica play" of nine children from 1 to 7 years old, Wolf et al. identified five increasingly complex levels of this play: (1) acting toward the figure or replica as if it were alive, (2) making it act toward and interact with other figures, (3) ascribing feelings and sensations to it, (4) endowing it with simple moral judgments, and finally (5) imbuing it with cognitions. By 2.6 years, all nine children in the Wolf et al. study had mastered the first four levels, and by 4 years all had attained the fifth level. In creating their stories, the children combined manipulation, speaking, facial expressions, and gesturing. They talked both for or through the figures, or acted as narrators by describing what the figures were doing.

In related studies, Nelson and Gruendel (1981) had shown that, by 3 years of age, children can correctly answer simple questions about "what happens when"

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concerning routines such as lunch at the daycare center or a birthday party. Older children added more details, but even 3-year-olds described causally related events in the appropriate order.

In designing the ASCT, Bretherton and Ridgeway were also influenced by Mandler's theorizing and research on story schemas or story grammars (for a review, see Mandler, 1983). According to Mandler, properly constructed stories contain (1) a beginning section that provides the necessary background or setting, (2) a complication or problem the protagonist faces, (3) the protagonist's attempt to solve the problem, and (4) the success or failure of the attempt (see also Stein & Glenn, 1979). The story may end with a moral. Mandler noted that both children and adults find it easier to retell stories when they follow this structure. Moreover, children or adults reinstitute the expected or canonical order on retelling a slightly scrambled story even when they are asked to retain the scrambled order (Mandler & DeForest, 1979). Along the same lines, Poulsen, Kintsch, Kintsch, and Premack (1979) reported that 4-year-olds appeared to use a story schema when asked to interpret a series of pictures conveying a reasonably complex sequence of events.

Influenced by the story grammar findings, Bretherton and Ridgeway made sure that protagonists and props were spatially laid out and moved in a manner that facilitated the children's understanding of the setting and story issue as simultaneously narrated by the interviewer. Through the invitation, "Show me and tell me what happens next," the child interviewee was then given the task of attempting a problem resolution and perhaps enacting an outcome.

The ASCT included five story stems, each focusing on a specific attachment theme (mishap, fear, pain, separation, and reunion). Clarifying prompts were to be used when the participating child was speaking for a nonspecified protagonist and when a character's action was ambiguous. If the child did not address the central issue posed by the story, or denied it, he or she was prompted with the question: "What did they do about . . . ?" The wording of this "issue" prompt was prescribed for each of the story stems so as not to suggest a specific solution.

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Transcripts of the videotaped sessions included both enactments and verbatim narratives. They were evaluated for story coherence versus disjointedness, constructive versus bizarre/chaotic resolutions, and avoidance of the story issue, loosely following prior evaluations of the SAT by Kaplan (1987; see also Main et al., 1985). The separate assessments were combined into a 4-point security rating, ranging from 1 (very insecure) to 4 (very secure).

*Results* Children whose stories received higher security ratings were also judged as more secure based on an observed separation-reunion with their mothers at the same age, Waters and Deane's (1985) attachment Q-sort at 25 months, and the Strange Situation (Ainsworth et al., 1978) with their mothers at 18 months (Bretherton, Ridgeway, & Cassidy 1990). An insight-sensitivity scale applied to transcripts of the Parent Attachment Interview (Bretherton & Ridgeway, 1986), administered to mothers at 25 months, as well as maternal reports of family adaptability/cohesion and marital satisfaction filled out at 37 months, was also correlated with the story-based security scale (Bretherton et al., 1989). In addition,

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there were correlations with mother-rated child temperament and a vocabulary inventory, assessed at 25 months. In a later re-analysis evaluating the story completions in terms of their resemblance to an ideal "secure script," Waters, Rodrigues, and Ridgeway (1998) discovered significant correlations between responses to the ASCT at 3 and 4.5 years. They also reported that secure scripts rankings at 4.5 years were predicted by earlier attachment measures.

### *Story Assessments of Moral and Prosocial Development*

Emde and Buchsbaum (who had previously used a play-therapy assessment of empathy) developed a series of analogous story stems, but with a focus on moral internalization that grew out of Emde's work on early moral emotions and children's responses to and negotiations about rules and prohibitions (e.g., Emde, Biringen, Clyman, & Oppenheim, 1991; Emde, Johnson, & Easterbrooks, 1988). Their story stems centered on moral transgression, prosocial behavior, conflict resolution, and empathy with peers.

Particularly noteworthy was Emde's creation of a moral dilemma (he called it the "Heinz dilemma" for 3-year-olds, after Kohlberg's study of moral judgment, 1971). In Emde's version, a child protagonist faced the quandary of whether and how to obey a maternal command that interfered with providing help to a hurt sibling. Buchsbaum and Emde were particularly intrigued by the child interviewees' guilt expressions as they enacted the child protagonist's transgressions against the maternal prohibition not to touch anything on the bathroom shelf in the mother figure's absence. Given his psychoanalytic background, Emde was also interested in exploring representations of oedipal feelings (see Emde, 1990). This led him to design an exclusion story stem during which the parents send the child to play in a separate room while they remain together. Buchsbaum and Emde (1990) published a detailed account of responses to the moral story stems by a group of 26 3-year-olds, reporting that most of the participating children were able to articulate coherent stories about moral rules, reciprocity, empathy, and internalized prohibitions. In a second report, they used the same data to relate children's responses to the story stems to their conception of the self (Emde & Buchsbaum, 1990).

### *Attachment Doll-Play Interview*

Oppenheim became interested in play narratives as a window into preschool children's inner worlds through clinical work at the University of Haifa, Israel, but was also influenced by Main et al.'s (1985) attachment study using the SAT.

Oppenheim's story completion task (developed at the University of Utah in the late 1980s) presented children with a variety of parent-child separation-reunions as well as other distress scenarios. After enacting each separation and again after each reunion, child interviewees were asked to explain what the protagonist child might do in the situation and how he or she felt. Children whose responses received higher ratings of emotional openness, constructive resolutions, and quality of mother-child interactions presented in response to the story

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stems were also given higher ratings for self-esteem by their teachers and were observed to engage in more exploration of the classroom environment during their first 2 days at preschool (see Oppenheim, 1997).

## Development of the MacArthur Story Stem Battery

### *Content of the MacArthur Story Stem Battery*

The Narrative Work Group, chaired by Emde and Wolf and formed during the second phase of the MacArthur Research Network on Early Childhood Transitions, reflected a wide variety of interests: language and narrative development (Dennie Wolf and Judy Reilly), role understanding (Kurt Fisher and Malcolm Watson), moral development and family conflict (Robert Emde and Helen Buchsbaum), and attachment and family relationships (Inge Bretherton, David Oppenheim, and JoAnn Robinson). The group also included researchers interested in the narratives of maltreated and chronically ill children (Rob Clyman and Betsy Rubin), as well as children with behavior problems (Carolyn Zahn-Waxler). Katherine Nelson and Robin Fivush occasionally served as consultants.

The group felt sufficiently encouraged by the findings from the three precursor studies already reviewed to undertake the development of a more comprehensive battery of story stems. These were to reflect several types of family relations (parent-child, marital and peer conflict, parent-child attachment, the oedipal and other triads), moral rules (do's and don'ts), moral emotions (guilt, shame, and empathy), and competence (pride). Several story stems were directly taken over or adapted from the Bretherton-Ridgeway, Buchsbaum-Emde, and Oppenheim batteries; Bretherton (assisted by Charlynn Prentiss and Arlene Lundquist) developed several additional dilemmas with input from the MacArthur Narrative Group. The whole battery (Bretherton, Oppenheim, Buchsbaum, Emde, and the MacArthur Narrative Group, 1990) was pilot-tested by Inge Bretherton and colleagues at the University of Wisconsin and by David Oppenheim, who had joined Robert Emde at the University of Colorado Health Sciences Center. Brief descriptions of the stems and their underlying themes are presented in table 3.1. The full text of the original battery can be found in the appendix of this book.

Whereas each story stem was created with a particular theme or dilemma in mind, the open-ended nature of the task meant that children could coherently address many of the stems in more than one way. For example, in the Spilled Juice story, some child interviewees treated the spill as an accident requiring the pouring of more juice, whereas others saw it as the result of carelessness or naughtiness that required some form of discipline. Similarly, the story stem in which a child climbs a high rock at the park was resolved as a mastery story by some children who made the character proudly stand on top of the rock and proclaim "I did it," whereas others resolved it as a distress-comfort story by making the child fall off the rock, followed by parental care. One interviewee who took the mastery approach remarked that this was "a lesson story" (a parent or sibling

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Table 3.1. Summary of the MacArthur Story Stems

| Story stem | Brief description | Participants | Issues |
|---|---|---|---|
| 1. Spilled Juice | One of the children accidentally spills the pitcher of juice at the dinner table | Two siblings, mother, father | Parent as attachment or authority figure in response to transgression; repairing "damage" |
| 2. Lost Dog | Part I: When going outside to play, a child discovers the family dog is gone.<br>Part II: The dog returns. | Child, mother, father, dog (in part II) | Concern for/sadness about a lost animal, joyful, angry, or avoidant reunion response |
| 3. Mom's Headache | The mother has a headache, turns off the TV, and asks the child to be quiet. A friend comes over and asks to watch an exciting TV show (if the child says no, the friend asks again). | Mother, child, child's friend | Empathy with mother's headache/compliance with mother's request vs. compliance with friend's request, selfish pleasure; resistance to temptation |
| 4. Gift for Mom or Dad | The child who has made a beautiful drawing at his or her preschool shows it to the parents on coming home. The interviewer asks whether the child will give the picture to mom or dad. | Child, mother, father | Does the child favor the same sex or opposite sex parent? How does child deal with triadic conflict? |
| 5. Three's a Crowd | A child is playing with his or her friend. The child's sibling wants to play too, but the friend threatens: "I won't be your friend" anymore if the child does not exclude the younger sibling. | Two siblings, friend, parents | Loyalty to friend versus loyalty to sibling; conflict resolution by children or parental intervention |
| 6. Hot Gravy | A child is warned by the mother not to touch the pot of gravy on the stove, but becomes impatient, touches the pot, and gets burned. | Two siblings, mother, father | Noncompliance with maternal request and parent as authority/attachment figure |
| 7. Parental Quarrel | The mother accuses the father of having lost her keys, and argument ensues. | Mother, father, and one child | Child response to parental conflict |
| 8. Stealing Candy | A child ask the mother for candy at the store, but she refuses. The child takes a candybar while the mother is not looking and is discovered by the cashier. | Mother, child, storekeeper | Getting caught during a transgression, owning up to a misdeed |

*continued*

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TABLE 3.1. *Continued*

| Story stem | Brief description | Participants | Issues |
|---|---|---|---|
| 9. Departure | The parents go on an overnight trip while the grandmother babysits. | Mother, father, two siblings, grandmother | Separation anxiety |
| 10. Reunion | The parents return from their trip. | Mother, father, two siblings, grandmother | Reunion quality |
| 11. Bathroom Shelf | Part I: The mother announces that she must return something to the neighbors and asks the children, who are playing, not to touch anything on the bathroom shelf. While the mother is gone, one of the children requires a bandaid from the bathroom shelf. Part II: In the second part of this story, the mother returns. | Mother, two siblings | Compliance with maternal request versus empathy with sibling |
| 12. Climbing a Rock at the Park | At the park, the child tells the parents that she or he will climb to the top of the very high rock. The mother warns the child to be careful. | Two siblings, mother, father | Child mastery (accident, parental comforting) |
| 13. Child Exclusion by Parents | Mother and father are sitting on the family couch, talking. They tell the child they would like to spend some time alone and ask the child to play in his/her room. After the child has left (if necessary with assistance from the interviewer), the parents kiss. | Mother, father, one child | Child's response to being excluded from the parental dyad (compliance with parents' request) |
| 14. The Cookie Jar | One of the siblings takes a cookie from the jar in the kitchen and is reminded by the other sibling that the parents said not to take cookies. The first sibling then asks "please don't tell mom or dad about it." At this point, the parents enter. | Two siblings, mother, father | Honesty or compliance with rule versus loyalty to sibling (or empathy with sibling who might get punished otherwise, tattling) |

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shows the protagonist how to climb the rock successfully next time). The "Mom's Headache" dilemma also gave rise to dual interpretations. Some children viewed the mother's request for quiet as a request for obedience (or occasion for punishment if the request was not heeded), whereas other interviewees invented solutions suggesting the child protagonist's empathy for the mother. We will return to this issue when discussing the diverse coding procedures used to analyze the story completions.

### *Directions for Administering the MacArthur Story Stem Battery*

*Rapport* It is vital that the interviewer establish good rapport with the child interviewee through playful interaction before engaging him or her in the story completion task. For shy children, this will take longer than for sociable children. When the child is brought to a university playroom by a parent or when the task is administered at home, rapport is best established in the presence of the parent, though the parent normally leaves before the story completion task begins. If the task is administered in a separate room at the child's preschool or daycare center, making friends with the child in the classroom, or participating in classroom activities for a while, is highly advisable. Proper training of the interviewer(s) is crucial. We strongly recommend that researchers new to this procedure consult others who have already used the task and that only skilled interviewers with experience in interacting with young children be asked to administer it.

*Materials* Originally we used "realistic, bendable" doll families. Such dolls can be obtained through toy stores or school supply firms. In pilot-testing the MSSB and during some of the subsequent studies, "Duplo" figures were used, while in a more recent study Bretherton employed a small bear family. For older preschoolers and school-age children, "Playmobil" figures are appropriate. The precise appearance of the family figures is less important than that they are realistic enough to suggest their identity: mother, father, grandmother, older and younger siblings (two boys or two girls, depending on the gender of the child who is interviewed), additional children to serve as friends, and a family dog. It is important that the figures can stand up and that they match the child's racial background if human figures are used.

The "scenery" props should be easy to handle and should suggest the intended setting without being overly elaborate. For example, in the story in which a child accidentally spills juice at the dinner table, we no longer ask the child to set the table with miniature dishes and silverware (as we did in its first implementation) but to use only a pitcher. Likewise, the family car used in the departure-reunion story should not be a vehicle with shiny, turning wheels that may attract undue fascination. A small box with painted wheels is sufficient, though it is important that the whole family can fit inside it. A piece of green felt is appropriate to suggest the lawn in the park, but provision of miniature trees or swings would be distracting. For the rock (a required prop), we chose a sponge cut into the shape of a rock. A piece of stone might have been more realistic but could have represented a safety hazard.

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It is also important to follow the layout of the props and positioning/orientation of the figures recommended in the manual. In addition to making it easier for the child to follow the story line, this facilitates interpretation of a child's responses. For example, in the Lost Dog story, the returning dog should be placed at a distance from the child figure, so that the child interviewee can enact unambiguous proximity seeking by the dog to the child figure and vice versa.

*Warm-Up* The task is administered at a child-sized table, with the child and tester sitting opposite, at right angles, or beside one another. To begin the task, the interviewer introduces and names the family members one by one and then checks that the child can recall the identity of each figure. The props for the warm-up story (a small table and birthday cake) are then placed on the table, followed by acting out the warm-up story stem. This first story stem is not considered part of the battery proper but is meant to provide an opportunity to convey to the child what is expected of him or her. We chose a birthday story as introduction because most children 3 and older are able to describe a birthday sequence (Nelson & Gruendel, 1981). After setting up and narrating the birthday stem, the interviewer invites the child to "show me and tell me what happens next." If the child does not initially respond by spontaneously acting out a birthday scenario or responds only minimally, the interviewer should model verbal descriptions of what the story characters are doing (e.g., "they are eating cake") and character speech (e.g., making the child protagonist say: "That cake tastes yummy"). However, no such modeling should occur during the task proper.

The interviewer should have memorized and practiced the story scripts sufficiently well to be able to present them with expressiveness and without having to refer to a "crib-sheet" more than occasionally. The MSSB task was not designed as a test-like procedure during which the interviewer asks questions and the child provides brief answers. To create the appropriate atmosphere for the task, the interviewer should convey interest in the child's stories by tone, gesture, and the provision of psychological "space." We have noticed that the narrative frame established in the first few moments is likely to influence the rest of the task. A patient, attentive, and even curious stance by the interviewer is most likely to encourage the child to become engaged.

After the child has completed or has actively participated in completing the birthday story (i.e., has made the figures move, has talked for or about them), the interviewer requests that the child set the figures back in their original position at the side of the table, saying: "Can you get them ready for the next story?" For each of the subsequent story stems, the interviewer first creates the setting by bringing out the relevant props and placing them in accordance with the spatial layout suggested in the MSSB manual while describing the scene. The interviewer then enacts the remainder of the stem in accordance with the script, always followed by the invitation: "Show me and tell me what happens next."

*Interviewer Reactions to the Child's Story Completions* Close attention should be paid to how the interviewer reacts to the child's story completions. Although we gave approving feedback during earlier studies, we now refrain from comments such

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as "That was a great story" because interviewers will find it difficult to use such remarks after a child creates a very violent or disjointed story, and such comments may direct children to certain topics or themes. It is especially important to retain a nonjudgmental stance when the child enacts highly negative or chaotic stories that end with catastrophes. We have observed that untrained interviewers sometimes respond to such stories with unhelpful comments such as "No, they wouldn't do that!"

An alternative approach is to reinforce the storytelling act rather than the story. For example, comments such as "I can see you are really working hard on this story" can be useful following both negative and positive stories. In some cases, particularly in studies of children from clinical or high-risk populations, additional reinforcers have been employed. For example, some researchers have found stickers useful in encouraging cooperation (note, however, that there are no studies showing how these forms of encouragement influence story completions).

*Prompts* Some children intervene in the presentation of one or more story stems (see vignette in chapter 8, for example). If this occurs, the interviewer can tactfully say, "I'll tell the beginning and you get to finish it." Prompts during the child's response are required if a child moves the family figures in ways that are ambiguous. For example, when a child moves two figures against each other and it is unclear if hitting or hugging is meant, the interviewer may ask, "What are they doing?" Similarly, if the child speaks for an unidentified protagonist, the interviewer can ask, "Who said that?" If the child replies, "I did," the interviewer can say, "Who in the story said that?" The "who" prompt is also helpful if the child interviewee uses pronouns such as "he went to sleep" without designating an actor or acting out the event. Occasionally, a child may ask for an additional prop or a prop used in a previous story. If this occurs, the interviewer can say, "Just pretend." If the child insists, the interviewer might say, "You'll get to play with it after we finish the stories." The prompt "anything else?" can be used if the child's initial response is very brief.

Each story stem has one prompt that should be used if the child fails to address the main story issue. The reason for this prompt is twofold. Several attachment studies have shown that consistent avoidance of the central story issue may be related to insecure-avoidant mother-child attachment (e.g., Kaplan, 1987). This avoidance can take a number of different forms, ranging from "I don't know" to denying that the problematic event happened, commenting on the physical properties of the props instead of enacting a meaningful resolution, or ignoring the stem and creating an unrelated story completion. Using the issue prompts twice (if necessary) allows the interviewer to ascertain the extent to which a child is unwilling to address the story problem. Alternatively, if the child actually produces an appropriate resolution after prompting, we have greater certainty that she or he has grasped the main point of the story. The difference between spontaneous and prompted completions can be taken into account during coding.

*Repeating the Child's Utterances* It is often useful to repeat what children, especially young children, say during the narratives. Doing so not only conveys to

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them that they are heard but also helps transcribers understand narratives spoken in a quiet or unclear voice. Most young children accept these repetitions and respond to them favorably. However, with some older or very articulate children, using this technique can be awkward and may even become an interruption. These children are also typically quite clear in their narration, rendering repetitions unnecessary.

*Ending a Story* Many children, especially children 4 and older, will end stories themselves by saying "all done" or "the end." If the child does not do so, the interviewer must judge when it is time to move on to the next story stem. Several criteria may be used to facilitate this decision. For example, if the enactment becomes perseverative, the interviewer can ask, "Is this the end?" If the child has resolved the issue and begins to enact a lengthy unrelated tale, the interviewer can ask, "How does this story end?" This question is successful most of the time, though one creative child replied to this question, "This story never ends." To lead into the next story stem, the interviewer may say, "Now I have an idea for a different story" or "Are you ready for something different now?"

There are different ways of making the figures move "off stage" when they are not needed for the next story. The interviewer may say, "The grandma is going home now" or "For this story, Jane is going to her friend's house." Alternatively, the interviewer may just remove the figure, saying, "The grandma isn't in this story," and place the figure in the box where the props are kept, usually on the floor beside the interviewer's seat.

*Wind-Down* After all of the stories have been presented, the interviewer invites the child to have the family engage in a fun activity. At this point, the child interviewee is told that he or she can play with any figure or prop he or she wants. The purpose of the "wind-down" story is to provide a pleasant and relaxed ending for the session during which no other specific demands are made of the child.

*Standardization and Variation* The MSSB was not developed as a standardized test. Although we have written a set of standard instructions, the usefulness of the battery is not, in our view, based on literal adherence to a set of strict rules, but rather on following the battery's spirit or underlying aim of facilitating storytelling.

Some researchers have omitted a few of the stems, others have developed additional stems tailored to their particular aims, or they have "mixed and matched" stems from the original Bretherton and Ridgeway or Buchsbaum and Emde studies with those of the MSSB or story stems developed by other members of the MacArthur Narrative Group (e.g., Zahn-Waxler et al., 1994). We strongly recommend, however, that if additional stems are created for particular purposes, they should be pilot-tested carefully, both in terms of the script and the spatial layout presented during the enactment.

If changes in procedure are made, they should be implemented consistently and described carefully. Ultimately, the validity of a task of this nature depends on (1) how well the story scripts are constructed, (2) how well the task is admin-

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istered, (3) what analysis procedures are used, and (4) what its external correlates turn out to be.

### *Coding Approaches*

Before considering evidence for the external validity of the MSSB, we briefly describe the approaches researchers have used to evaluate children's performances in response to the task. When relevant, we include findings from the precursor studies.

Approaches to coding have emphasized four domains: (1) story content or themes, (2) theme organization or coherence, (3) emotional expression, and (4) interaction with the interviewer (see Page, 2001, for a review). A few studies have used more global assessments.

All of these approaches do not assess success or failure, but rather evaluate how the child interviewee chose to interpret and finish the story. For this reason, stories with a moral focus are not only examined in terms of whether the moral issue presented in the stem was meaningfully addressed or resolved. Rather, if the child enacted attachment themes during moral stories or moral themes during attachment stories, this can also enter into the overall assessment.

*Inventories of Content Themes and Face Validity* Both Buchsbaum and Emde (1990) and Bretherton, Prentiss, and Ridgeway (1990) created inventories of children's responses to their respective sets of stems, detailing agents, recipients, and their specific enacted or narrated actions. The fact that most of the 36- or 37-month-olds participating in these two precursor studies were able to produce relevant and comprehensible resolutions to the story stems provided preliminary evidence for the face validity of the story completion procedure. However, we regard 36 months as the lower age boundary for the MSSB.

*Theme-Based Coding Systems* JoAnn Robinson and colleagues, in consultation with the MacArthur Narrative Group, were charged with designing a coding system specifically tailored to the MSSB. After viewing a number of MSSB videotapes, they created a list of common themes related to the issues probed by the various stems (moral rules, prosocial behavior, empathy, exclusion, attachment, parental nurturance and nonnurturance, and conflict/aggression; see Robinson, Mantz-Simmons, & Macfie, 1992, and discussion in chapter 4 here). All themes, except those concerning parental nurturance, were coded without regard to agent and recipient, thus yielding an overall score for the specific theme whether the behavior was directed by the mother figure toward a child, a child toward the mother, or two children against each other. Each theme was tallied no more than once per story. Theme codes were then added across the story set, yielding a maximum score of 12 for each theme. Page and Bretherton (1993) developed a related coding manual for MSSB and ASCT stories that focused primarily on dyadic and family interaction themes derived from attachment theory (mother-child, father-child, child-child, and mother-father interactions). In this coding manual, the absolute frequency of themes

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across story stems is retained. A system by Hodges, Hillman, and Steele (2002) contains similar theme codes but with a greater emphasis on clinical evaluations (see appendix of chapter 13).

*Process Coding* Given the important role of story coherence in prior attachment studies based on narrative approaches (e.g., Main et al., 1985; Bretherton Ridgeway, & Cassidy, 1990; Cassidy, 1988), Robinson et al. also developed a narrative coherence rating for the MSSB. In addition, because the child's rapport with the interviewer might affect the content of his or her story completions, they devised scales to assess aspects of the child's social interchanges with the interviewer. Finally, in response to group members' interest in emotion regulation, the Robinson team developed scales to assess children's emotional expressions of joy, anger, concern, sadness, and anxiety. The emotion scale was further developed and elaborated by Warren, Oppenhein, and Emde (1996, see chapter 5).

The coding system by Hodges, Hillman, and Steele (2002) cited previously also proposed a number of process ratings, such as premature foreclosure, or no closure, changing motivational constrainst (avoidance), and sudden unmotivated plot shifts from constructive to destructive and vice versa. Another coding system that focused primarily on narrative process was created by a group of clinicians based in England (Jonathan Hill at the University of Liverpool and Peter Fonagy at University College London) and the United States (Daniel Hoover at the Menninger Clinic) who worked in consultation with Robert Emde and JoAnn Robinson. Their scales (Hill, Hoover, & Taliaferro, 1999) have undergone extensive reliability testing and include coherence and avoidance, as well as affect regulation, escalation of aggression, and danger situations, as well as events without agents. Narrative style is evaluated in terms of elaboration, embellishment, and sudden shifts in the narrative. The team also developed several performance scales designed to capture the child's transactions with the interviewer, including attention, oppositional behavior, and controlling behavior (see chapter 9).

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*Comparison of the Robinson et al. Coding System with Other Approaches.* In one of the initial MSSB studies with 45 upper-middle-class preschoolers from two-parent families, Bretherton, Winn, Page, Macfie, and Walsh (1993) compared the Robinson et al. system with a more clinically based coding system devised primarily by Page and a second theme-based system devised primarily by Winn. Winn's system differed from Robinson et al.'s in that themes were tallied separately for each protagonist and counted in terms of absolute frequency across stories.

Comparisons among the resulting codes yielded correlations in the .6 to .7 range when related domains were compared. For example, theme-based story scores of parental nurturance assessed with the Robinson system were not only highly correlated with Page's clinical rating of parental nurturance but also with Winn's frequency score of mother and father nurturance themes.

Perhaps more interesting, children who told disorganized stories (rated according to Page's clinical system) received significantly higher scores for all

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negative themes, including anger, punishment, aggression, verbal conflict, self-blame, and dishonesty, whether assessed with the Robinson et al. or Winn systems. Disorganization ratings were also correlated with interviewees' facial expressions of distress and concern, assessed with the Robinson et al. emotion scale. In contrast, story presentations rated as more avoidant (based on Page's clinical assessment) were negatively correlated with almost all positive theme scores, whether they were tallied once per story or in terms of absolute frequency across stories. In contrast, narrative coherence from the Robinson et al. system was positively correlated with all prosocial and other positive themes, whether assessed with the Robinson or Winn systems. Finally, Robinson's narrative coherence ratings were significantly correlated with Page's clinical assessment of positive family interaction. These analyses reveal that interpersonal themes, theme organization, coherence, manner of responding, emotional expressivity, and rapport with the interviewer turn out to be closely intertwined in children's story completions, issues to which we will return later.

*Global Assessments* In a precursor study based on attachment theory, Bretherton, Ridgeway, & Cassidy (1990) developed a security rating scale for children's responses to story stems. This approach has been used to code children's responses to the MSSB in a more recent study by Heller (2000). Security scores were created by averaging scales for narrative coherence, constructiveness of resolutions (including positive relationship themes), and relationship with the interviewer. Another elaborate system for deriving security scores from ASCT responses (validated against the Strange Situation and the AAI) was developed by Gloger-Tippelt, Gomille, Koenig, and Vetter (2002). Yet a further system for the evaluation of attachment stories from the ASCT and MSSB was the development of a 65-item Q-sort. Theoretically based mega-items from this Q-sort predicted maternal AAI classifications (Miljkovitch, Pierrehumbert, Bretherton, & Halfon, 2002).

We suggest that the choice of coding method be governed by the specific aims of each particular study, as well as the age of the child participants and the size of the sample. Significant results have been obtained with all of the coding systems described, but narrative coherence seems to be a particularly telling indicator of the child's adjustment, as are highly aggressive or chaotic themes or representations. In terms of evaluating the quality of resolutions and coherence, it may be particularly useful to develop codes for the evaluation of separate story stems (see chapter 8).

## Consistency, Developmental, and Validity Issues

*Cross-Contextual Consistency* To our knowledge, only two studies have compared story completions assessed at home and in the laboratory. Buchsbaum and Emde (1990), using a precursor of the MSSB, administered 4 story stems in the child's home and 11 stems at a university playroom. Of the 4 stories presented at home, 3 were repeated at the university. For the repeated stories, children tended to choose the same actors to complete the stems, but postresolution enactments were

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not identical (i.e., the same protagonist might clean up the spilled juice; subsequent family interaction might be different). Buchsbaum and Emde reasoned that complete correspondence should not be expected and might actually index stereotypic rather than creative responding.

Oppenheim, Emde, and Wamboldt (1996) approached the issue of cross-situational consistency by developing alternate forms of two MSSB narratives (Spilled Juice and Exclusion). These alternate stems were administered during a home visit 1 or 2 weeks after a laboratory observation during which the entire MSSB had been administered. The consistency issue was examined, not by asking whether children told similar stories in different settings, but rather by examining cross-context correlations of narrative coherence and of prosocial, aggressive, and discipline themes assessed with Robinson et al.'s coding system. Relationships were significant, but very modest, ranging from .23 to .31, as might be expected based on the small number of story-stems obtained at home (two). Further investigations of test-retest stability are required, and such efforts have to be based on developing alternate versions of the entire battery of story stems to rule out the possibility that children remember the stems and their completions from the previous session. In our experience, such remembering is possible even when the assessments are a year apart, and some children have explicitly told us they remember the stories.

*Developmental Changes* Bretherton, Prentiss, and Ridgeway (1990) compared responses by 25 children at 3 and 4.5 years of age, using one of the MSSB precursors. They reported that the content of the resolutions presented by the 4.5-year-olds was not strikingly different from that of 3-year olds (e.g., at both ages the child protagonist who spilled the juice might be punished, or the spill cleaned up and more juice poured). Rather, older children's narratives/enactments were more complex in role portrayals (more frequent inclusion of the father figure, quasi-parental behavior by the older toward the younger child, more father-mother interactions not involving the child figures, and use of grandmother figure as a substitute parent rather than playmate) and the enactment of more and longer conversations among the protagonists. In addition, older children more often ended their stories with some form of family togetherness (eating, sleeping, or going on a trip together). In their reanalysis of transcripts from the Bretherton, Ridgeway, & Cassidy study, Waters et al. (1998) documented that the number of idea units used increased significantly from 3 to 4.5 years of age.

For the complete MSSB, Oppenheim, Emde, and Warren (1997) reported two developmental findings concerning content themes. In their examination of mother representations at child age 4.5 and 5.5 years, they noted an increase in positive and disciplinary representations with a concomitant decrease in negative representations. This corroborated Bretherton et al.'s (1993) MSSB cross-sectional findings with 3-, 4-, and 5-year-olds that had also reported an age increase in positive themes.

In another study, Oppenheim, Emde, Hasson, and Warren (1997) examined the development of preschoolers' capacity to acknowledge moral dilemmas. Analyses were based on the three MSSB narratives in which the child figures

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are placed in a moral quandary whose resolution requires holding both sides of the dilemma in mind simultaneously (Bathroom Shelf, Mom's Headache, and Three's a Crowd). In Bathroom Shelf, this involves attending to the maternal prohibition not to touch anything on the bathroom shelf in the mother's absence and to the sibling's need for a band-aid, located on that very shelf. Oppenheim et al. noted a steady increase from 3.5 to 4.5 years, and again from 4.5 and 5.5 years, in the percentage of child interviewees who acknowledged both sides or horns of the dilemma (e.g., 32%, 53%, and 85% for the three ages, respectively, with regard to the Bathroom Shelf story stem). The same pattern held for all three dilemmas, although preschoolers appeared to find some dilemmas more difficult to resolve than others. The study also showed that the standard issue prompt, given to children who did not spontaneously acknowledge both horns of the dilemma, enabled a significantly higher number of children to do so.

Given these findings, we concur with Oppenheim and Waters (1995), who recommend that researchers using story completion tasks during the preschool years pay closer attention to developmental changes in storytelling and perspective-taking skills. Developments in understanding psychological causality, role-taking, and false beliefs, they note, can affect the structure, complexity, and content of the stories children produce in response to MSSB and similar story stems. To mention just one example from Bretherton's unpublished data, 3-year-olds presented with the ASCT Monster in the Bedroom story stem tend to have a parent figure dispose of the monster, whereas 4.5-year-olds often make the parent figure explain to the child protagonist that the supposed monster is "only a blanket" or "not real." Both resolutions are coherent and depict parental reassurance and protection of the child, but the performances of the 4.5-year-olds indicates an understanding that the story protagonist can have false beliefs, an emerging ability recently investigated in "theory of mind" studies (Wimmer & Perner, 1983). Given that the cognitive complexity and coherence of story completions increase with age, and that a number of studies have included mixed age groups, we need careful developmental MSSB analyses. Many of the original story stems seem to remain fruitful elicitors of interesting narratives (Granot, & Mayseless, 2001), though some researchers have invented new stems specifically designed for older children (e.g., the New MSSB; Warren, Emde, & Sroufe, 2000).

*Longitudinal Stability* Waters et al. (1998) reported significant though moderate longitudinal correlations between assessments at 3 and 4.5 years with a precursor of the MSSB. For the complete MSSB, Oppenheim, Emde, and Warren (1997) found moderate correlations between aggregate scores of positive, negative, and disciplinary mother-child themes. In a second study, Oppenheim, Nir, Warren, and Emde (1997) obtained moderate longitudinal correlations between ratings for narrative coherence, investment in performance, and relationship with the interviewer ratings, as well as prosocial and aggressive themes, based on the Robinson et al. coding system (see also chapter 8).

*Gender* In their cross-sectional MSSB study of 3-, 4-, and 5-year-olds, Bretherton et al. (1993) noted that girls enacted significantly more prosocial and

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conflict resolution themes, whereas boys incorporated more aggressive themes into their story completions. In their longitudinal MSSB study, Oppenheim, Nir, et al. (1997) also found that girls enacted more prosocial and fewer aggressive themes than boys, but only at the age of 4.5 years. At 5.5 years, these differences had disappeared. Oppenheim et al. additionally reported that girls received higher ratings for relatedness to the interviewer (based on the Robinson et al. coding system) at both ages. Von Klitzing, Kelsay, Emde, Robinson, and Schmitz reported more aggressive themes for boys than girls, but only girls' aggressive themes predicted concurrent preschool behavior problems. In a recent study of children from divorced families, Page and Bretherton (2000) also noted that girls and boys differed in terms of story themes (girls depicted less aggression and more prosocial themes). In addition, they found that representations of father-nurturance by boys and girls had different external correlates, predicting positive outcomes for boys and negative outcomes for girls. Similarly, Steele, Woolgar, Yabsley, Fonagy, Johnson, and Croft (chapter 9) discovered interaction effects when boys' and girls' prosocial MSSB themes were compared with maternal responses to the Adult Attachment Interview (AAI; George et al., 1985). Boys whose mothers received insecure AAI classifications had low prosocial scores, whereas girls with mothers classified as insecure had high prosocial scores. Boys and girls with intermediate scores had mothers whose AAI was classified as secure-autonomous. These findings highlight the need for more attention to gender differences and interaction effects in analyses of story completions in relation to external correlates.

*Language Competence* Whether or not story completions are correlated with language assessments may turn on how story completions are coded. The security scores devised for Bretherton, Ridgeway, & Cassidy's (1990) original ASCT study of 3-year-olds were moderately correlated with vocabulary size at 25 months. However, the scriptedness coding applied to the same data by Waters et al. (1998) was not correlated with verbal ability. In their MSSB study, Bretherton et al. (1993) found that a verbal comprehension test was moderately related to children's positive theme scores but controlling for language did not affect the correlations with other measures. Oppenheim, Emde, and Wamboldt (1996) and Oppenheim, Emde, Hasson, and Warren (1997) also discovered some evidence for links between MSSB scores and linguistic competence and therefore controlled for language competence in regression analyses. Receptive vocabulary was associated with narrative coherence and discipline themes at 3.5 years, whereas expressive vocabulary was moderately related to narrative coherence at 4.5 and 5.5 years. At 5.5 years, expressive vocabulary was also correlated with positive representations and aggressive theme aggregates (negative correlation in the latter case).

*Temperament* Bretherton et al. (1993) found that child temperament rated by mother and father, using the Colorado Temperament Inventory (Rowe & Plomin, 1977), showed significant correlations with MSSB responses. Theme scores for empathy, affection, exclusion, guilt/reparation, conflict resolution, dishonesty,

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aggression, and conflict escalation (Robinson et al. coding system) were negatively related to maternal and paternal shyness ratings of the child. The Robinson et al. ratings for responsiveness to the examiner were also negatively correlated with shyness, whereas concern and distress expressions were positively correlated with shyness. Only sporadic correlations were noted with other CCTI scales. For example, temperament ratings for activity level were correlated with aggressive and accident themes. (See chapter 7, by Aksan and Goldsmith, for further data on the connections between child temperament and narrative responses to story stems.)

*Variations and Adaptations of the MSSB and Related Batteries* As already noted, some studies using the MSSB have added or removed particular story stems, although the precise substitutions and subtractions are not always clearly indicated. For example, Oppenheim, Nir, et al. (1997) omitted two of the stems from the full MSSB. Toth, Cicchetti, Macfie, Manghan, and VanMeenen (2000) used the ASCT with maltreated children at two ages but coded it with the Robinson et al. MSSB coding system. They report a decrease in moral themes in maltreated children from 3 to 5 years old, whereas the reverse was found for matched nonmaltreated children. Steele and colleagues (see chapter 9, this volume), who selected only three of the MSSB story stems, report that theme codes were meaningfully related to the AAI scales. In short, the MSSB and precursors yield correlations with other assessments of interpersonal relatedness and adjustment, even when only a subset of the story stems is used.

Yet other investigators have added their own special purpose stems to the MSSB or ASCT-MSSB combinations. For example, Vandell created two day-care-related stems as an addition to the ASCT that were administered to a subset of the children participating in the National Child Care Study (see San Juan, Bretherton, & Vandell, 2002). The authors report correlations with observed maternal sensitivity. Bretherton and Page (1993) adapted a combination of ASCT and MSSB story stems for use with children of divorce by portraying mother and father as living in two different houses, symbolized by pieces of felt. They documented significant associations of story themes with preschool social competence (Page & Bretherton, 2001). Grych, Wachsmuth-Schaefer, and Klockow (2002) created a set of family conflict stems adapted from the MSSB, and found correlations between children's conflict stories and assessments of actual parental discord. Poehlmann and Huennekens (2003) adapted the ASCT for children of incarcerated mothers, administering a slightly adapted version of the story stems twice. In one version, the caregiving parent figure represented the child's current foster mother (aunt, grandmother, nonrelated foster mother), and in the second version the caregiving figure was specifically said to be the child's own mother. Poehlmann and Huennekens reported that children's story completions differed significantly, depending on which figure was used as caregiver. Hodges, Steele, Hillmann, and Henderson (chapter 13) compared MSSB story completions with additional story stems (the Little Pig Stems; Hodges, Hillman, & Steele, 2002). They found both story sets useful in the clinical assessment of maltreated

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children. Finally, Guenter, Di Gallo, and Stohrer (2000) created a parallel set of 10 story stems, designed to provide an alternative to the MSSB. When administered to 8- to 12-year-olds, the results in terms of external correlated were equivalent (Aurnhammer & Koch, 2001).

Finally, the successful use of the MSSB and ASCT have encouraged others to devise additional narrative techniques. For example, Murray, Woolgar, Briers, and Hipwell (1999) asked the child to use a doll's house to enact a "mean story" and a "nice story" about the mother and father figures. Green, Stanley, Smith, and Goldwyn (2000) devised an emotional induction technique to ensure that the child interviewee was engaged in the protagonist's distress before inviting the child to complete the story stem.

We welcome such variations and adaptations of the story completion procedure, but we recommend that new stories be carefully pilot-tested in terms of the script and the spatial placement of figures and props. We also recommend that the story scripts, whether based on the MSSB manual or additional story stems, be carefully followed if comparability with other studies is desired. In addition, we encourage researchers to report the specific stories they have included, excluded, adapted, or added.

## Tasks for the Future: Reflections on Meaning

As our review and other chapters in this volume show, a fairly extensive and rapidly growing body of evidence now links the content and organization of young children's story completions about family relationships and moral issues to other aspects of their social development, especially their relationships with parents and peers. However, we still have much to learn about the more specific ways in which children's responses to the MSSB and related story tasks can be said to reflect their inner life (for discussions, see Bretherton, 1993; Emde & Spicer, 2000; Oppenheim & Waters, 1995).

Closer examination of the story transcripts themselves has already proved revealing (e.g., Buchsbaum, Toth, Clyman, Cicchetti, & Emde, 1993; Bretherton, Munholland, & Page, 1999; Herman & Bretherton, 2001; Page & Bretherton, 2002, in press). Analyses show that children draw on a variety of sources when they engage in emotional meaning making through storytelling. That the stems evoke autobiographical memories is evident from comments that many children intersperse in their narratives, such as "My mommy does that when I fall down," after enacting a story in which a hurt child is comforted by the mother figure. Other story completions suggest that children are defensively distancing themselves from the story problem (by refusing to become engaged in the story, or by denying or ignoring that the problematic event occurred), and yet others are very obviously not literal replays of experienced interactions of self with parents, siblings, or peers but may represent hoped-for events (e.g., the reunification of divorced parents) or feared scenarios (e.g., the child figure is eaten by a monster). Finally, some superficially bizarre or catastrophic representations (e.g., family

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members being violently tossed about by tornadoes, objects crushing a protagonist, vehicles spinning out of control) may represent metaphoric depictions of emotions aroused by the story problems, though without clinical probing this is difficult to show unambiguously. These and related matters are discussed in some detail in chapter 11for children who have suffered maltreatment.

Further insights into the meaning of children's story completions may also come from studies that combine several different narrative techniques. For example, Oppenheim, Nir, et al. (1997) compared children's resolutions of MacArthur story stems with co-constructed mother and child play narratives, and Heller (2000) contrasted MSSB responses and mother-child talk about remembered events based on Fivush (1993).

Finally, the sense in which story completions index children's actual attachment and peer relationships also needs further clarification. Despite significant correlations with child adjustment and security of attachment reviewed, the stories children produce in response to the MSSB and related tasks cannot be interpreted as direct portrayals of experienced relationships. Rather, as Oppenheim and Waters (1995) suggested, individual differences in children's growing ability to share, co-construct, and resolve narratives about emotionally laden personal topics with others may be mediated by emotionally open styles of communication learned in the family (see also Bretherton, 1990, 1993). In the MSSB and related tasks, the co-constructive aspect may be less obvious than in other studies that have examined more active dyadic narrative co-constructions by children and parents (Oppenheim, Nir, et al., 1997; Etzion-Carasso & Oppenheim, 2000; also see chapter 18). Nevertheless the interviewer's engaged attention and encouragement of the child through prompts makes the MSSB, too, a co-constructive task.

Some children have free access to their representations and can therefore create and co-create spontaneous, coherent, and constructive resolutions for the emotionally charged problems posed by the story stems. These children tend to have experienced open and supportive communication patterns with parents and to engage in prosocial behavior with peers. Other children have a propensity to narrate and enact bizarre, destructive, incoherent story completions or, alternatively, to respond to emotionally charged story stems with avoidance. These children tend to have had a history of emotional communication difficulties with parents and problems in relating to peers. The content of children's stories may be inspired by and drawn from many sources. While it does not reflect literal reality, it reflects children's affective reality through the coherent organization of themes, constructiveness of resolutions, and ability to collaborate with the interviewer with emotional openness.

In conclusion, findings obtained with the MSSB and related instruments have begun to provide many insights into the creative processes of young children's meaning making through stories. In addition, they have revealed linkages with communication patterns in actual relationships. We hope that the MSSB and its variants will continue to be helpful resources for developmental psychologists and child clinicians in their future explorations of both topics.

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